1
00:00:01,540 --> 00:00:05,240
[Music]

2
00:00:14,760 --> 00:00:17,620
[DC-8 taking off]

3
00:00:17,700 --> 00:00:23,940
>>SARP is a hands-on program for students to
get experience in the field with instruments

4
00:00:23,949 --> 00:00:25,590
working on NASA science.

5
00:00:25,590 --> 00:00:31,650
It's focused on Earth Systems science, airborne
measurements, atmospheric science, oceanography,

6
00:00:31,650 --> 00:00:37,010
land surface science, using a combination
of in-situ measurements that make the measurements

7
00:00:37,010 --> 00:00:40,900
of the air that the planes fly though, as
well as remote sensing instruments that can

8
00:00:40,900 --> 00:00:44,809
look down at the ground or look at the atmosphere
or look at the ocean's surface.

9
00:00:44,809 --> 00:00:48,399
The students get a chance to be involved with
making measurements.

10
00:00:48,399 --> 00:00:52,399
They go in the field and make surface measurements
that complement those from the aircraft.

11
00:00:52,399 --> 00:00:56,980
And then they work with the data that they

have, doing scientific data analysis.

12
00:00:56,980 --> 00:01:00,850
Since this is the tenth year of SARP, they
not only get to work with the data that they

13
00:01:00,850 --> 00:01:05,239
get, but the data that their predecessors
have gotten, and not just the data on the plane,

14
00:01:05,239 --> 00:01:07,200
but measurements on the ground that they make
as well.

15
00:01:07,200 --> 00:01:12,060
In many cases it's the same sensors, flying
the same time of year, in the same places,

16
00:01:12,060 --> 00:01:14,510
so they can see how this year is different
from other years.

17
00:01:16,400 --> 00:01:21,260
>>...so all you gotta do is open the inlet, open
the outlet, all the way, and then close it...

18
00:01:21,270 --> 00:01:27,689
>>...and take note of what pressure your gauge is
at, because you wanna see if it changes...

19
00:01:27,689 --> 00:01:31,860
>>We've been able to have a lot of hands on
experience, especially with a lot of the instruments.

20
00:01:31,860 --> 00:01:38,060
We only really get to see things like pictures
and maps and graphs and other data at school,

21
00:01:38,060 --> 00:01:43,250
but here we get to look at actual instruments,

see how they work, talk to technicians, and see

22
00:01:43,250 --> 00:01:45,430
how data is really collected in the field.

23
00:01:45,430 --> 00:01:51,030
>>We're taking measurements real time of methane,
CO, water vapor, and a bunch of different

24
00:01:51,030 --> 00:01:52,210
real-time measurements.

25
00:01:52,210 --> 00:01:57,240
It's really cool to see how these are fluctuating
when we're flying over different environments.

26
00:01:57,240 --> 00:02:02,030
>>It's been a lot of fun, been fun to learn
about all the different sensors, how everything

27
00:02:02,030 --> 00:02:03,030
works.

28
00:02:03,030 --> 00:02:07,060
What we're looking at on the screen here is
how formaldehyde is changing with the different

29
00:02:07,060 --> 00:02:10,080
conditions below us, as well as altitude.

30
00:02:10,080 --> 00:02:14,480
So depending on whether we're in the mixed
layer, or above it, there is different changes

31
00:02:14,480 --> 00:02:17,680
in the formaldehyde concentrations that the
plane is flying through.

32
00:02:17,680 --> 00:02:23,760

>>You get to dream about doing all of this science
in the field and you literally are doing it

33
00:02:23,760 --> 00:02:28,830
right now, like, we are currently flying at
like, I think only a thousand feet above the

34
00:02:28,830 --> 00:02:33,970
Earth's surface, traveling four-hundred miles
per hour, collecting canisters of air, which

35
00:02:33,970 --> 00:02:34,970
is kind of surreal.

36
00:02:34,970 --> 00:02:36,810
I think it's investing in the future, you
know?

37
00:02:36,810 --> 00:02:41,810
I come from an area of the country- Sardis,
Alabama- where eight percent of the people

38
00:02:41,810 --> 00:02:44,280
there have a Bachelor's Degree.

39
00:02:44,280 --> 00:02:48,229
When you see those work force gaps, it's important
to invest in students.

40
00:02:48,229 --> 00:02:52,400
>>This personally gives me a chance to do a
project start to finish completely, which

41
00:02:52,400 --> 00:02:56,900
is something that I haven't really done before
in this capacity.

42
00:02:56,900 --> 00:03:02,310
So I think that'll be a big plus, just to
show that I'm capable of coming up with a

43
00:03:02,310 --> 00:03:06,930
research question, carrying out the experiments
and the data collection, and then actually